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EXAMINER

OH, TAYLOR V

ART UNIT PAPER NUMBER

1625

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/617,806

Applicant(s)

ARCENEUX ET AL.

Examiner

Taylor Victor Oh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/14/03</u> . | 6) <input type="checkbox"/> Other: _____ |

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The Status of Claims :

Claims 1-5 are pending.

Claims 1-5 have been rejected.

Specification

The disclosure is objected to because of the following informalities:

The phrase“ C_{1D6} hydrocarbyl” is recited in line 10 on page 6 of the specification. The symbol between 1 and 6 is unknown . Appropriate correction is required.

The term “a ink ” in line 4 on page 11 , the term “formual(e)” in lines 30 and 25 on page 6 , and the term “ occurance” in line 3 on page 7 are recited in the specification. Appropriate spelling correction is required.

Claim Objections

Claim 1 is objected because of the following informality:

The symbol “(iii) ” is recited in the claim as a second step. The Examiner recommend to change from “(iii) ” to “(ii). ” Appropriate correction is required.

Claim 3 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 4. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

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Claim 4 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 3.

When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Applicant is advised that should claim 3 can be found allowable, claim 4 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation " three free hydroxy groups are retained." Claim 5 depends on Claim 3 which recites that steps (a) and (b) are performed by combining all reactants.

According to the specification (lines 16-19, on page 3), the three free hydroxy groups is retained

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in the resultant polyester as a result of the step (a) only; however, there is no description of forming the three free hydroxy groups in the final product when all the reactants are reacted together in a single step as claimed in claim 3. Claim 5 is vague and indefinite because it depends on Claim 3. Therefore, an appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated clearly by Vrancken et al (U.S. 3,952,032).

Vrancken et al discloses a process of producing a resin by reacting a sorbitol-ethylene oxide addition product, oleic acid, acrylic acid sequentially in the presence of a catalyst composition containing p-toluene-sulfonic acid and cuprous oxide, thereby producing the OH value of 29 (see col. 14, ex. 1, lines 3-40). This is identical with the claims.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated clearly by Ehrhart et al (U.S. 4,304,879).

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Ehrhart et al discloses a process of producing a polyester resin having a hydroxy number of from 50 to 100 (see col. 1, lines 26-34) by reacting isophthalic acid, phthalic anhydride, 1,6 hexanediol, neopentyl glycol, and ethylene glycol (see col. 2, table IB, lines 42-52) in a flask, whose product is further reacted with acrylic acid, xylene, nitrobenzene, and base (see col. 4, table IIA, lines 4-22). This is identical with the claims.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated clearly by Meixner et al (U.S. 4,983,712).

Meixner et al discloses a process of producing polyesters containing acryloyl groups having an acid number of from 10 to 22 (see col. 5, table 2, lines 14-27) by reacting terephthalic acid, adipic acid, phthalic anhydride, ethylene glycol, ethoxylated trimethylol propane, whose product is further reacted with acrylic acid (see col. 1, table I, lines 53-67). This is identical with the claims.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vrancken et al (U.S. 3,952,032).

Vrancken et al discloses a process of producing a resin by reacting a sorbitol-ethylene oxide addition product, oleic acid, and acrylic acid sequentially in the presence of a catalyst composition containing p-toluene-sulfonic acid and cuprous oxide, thereby producing the OH value of 29 (see col. 14, ex. 1, lines 3-40).

The instant invention, however, differs from the prior art in that the claimed process is involved in a single step instead of steps in sequence; and the three free hydroxy groups retained in the resultant product are unspecified in the prior art process.

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Concerning the three free hydroxy groups retained in the resultant product, the reference does describe the final product having the OH value of 29 in Example 1 (see col. 14, line 35). Furthermore, the final product with the OH value can be in the range of from 10 to 80 (see col. 13, lines 46-47). The claimed value and the prior art do not overlap but are close enough that one skilled in the art would have expected them to have the similar properties. Therefore, it would have been obvious to the skilled artisan in the art to have motivated to reduce the number of free hydroxy groups in the Vrancken et al product to the claimed three free hydroxy groups in the resultant product by a routine experimentation in order to improve the quality of the desired product.

With respect to the single step instead of the steps in sequence, this is directed to the optimization process. In view of the economical perspective, in order to save time and the operational cost, it would have been obvious to the skilled artisan in the art to minimize the extra step unnecessary to the process. Therefore, it would have been obvious to the skilled artisan in the art to have motivated to convert the Vrancken's et al two step process into the claimed single step process so as to save time and the operational cost.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehrhart et al (U.S. 4,304,879).

Ehrhart et al discloses a process of producing a polyester resin having a hydroxy number of from 50 to 100 (see col. 1, lines 26-34) by reacting isophthalic acid, phthalic anhydride, 1,6 hexanediol, neopentyl glycol, and ethylene glycol (see col. 2, table IB, lines 42-52) in a flask,

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whose product is further reacted with acrylic acid, xylene, nitrobenzene, and base (see col. 4, table IIA, lines 4-22).

The instant invention, however, differs from the prior art in that the claimed process is involved in a single step instead of steps in sequence and the three free hydroxy groups retained in the resultant product are unspecified in the prior art process.

Concerning the three free hydroxy groups retained in the resultant product, the reference does describe the polyester with the OH value of from 50 to 100 (see col. 1, lines 26-27). Furthermore, the final products may contain more than 70 % of the hydroxy groups which had been esterified. From this teaching, it is quite possible to form the three free hydroxy groups in the resultant product. Therefore, it would have been obvious to the skilled artisan in the art to have motivated to reduce the number of free hydroxy groups in the Ehrhart et al product to at least the claimed three free hydroxy groups in the resultant product by a routine experimentation in order to improve the quality of the desired product.

With respect to the single step instead of the steps in sequence, this is directed to the optimization process. In view of the economical perspective, in order to save time and the operational cost, it would have been obvious to the skilled artisan in the art to minimize the extra step unnecessary to the process. Therefore, it would have been obvious to the skilled artisan in the art to have motivated to convert the Ehrhart's et al two step process into the claimed single step process so as to save time and the operational cost.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meixner et al (U.S. 4,983,712).

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Meixner et al discloses a process of producing polyesters containing acryloyl groups having an acid number of from 10 to 22 (see col. 5, table 2, lines 14-27) by reacting terephthalic acid, adipic acid, phthalic anhydride, ethylene glycol, and ethoxylated trimethylol propane, whose product is further reacted with acrylic acid (see col. 1, table I, lines 53-67).

The instant invention, however, differs from the prior art in that the claimed process is involved in a single step instead of steps in sequence and the three free hydroxy groups retained in the resultant product are unspecified in the prior art process.

Concerning the three free hydroxy groups retained in the resultant product, the reference does describe that the polyester with the acid value below 3 is recommended (see col. 3, lines 12-14). From this teaching, it is quite possible to form the three free hydroxy groups in the resultant product. Therefore, it would have been obvious to the skilled artisan in the art to have motivated to reduce the number of free hydroxy groups in the Meixner et al product to at least the claimed three free hydroxy groups in the resultant product by a routine experimentation in order to improve the quality of the desired product.

With respect to the single step instead of the steps in sequence, this is directed to the optimization process. In view of the economical perspective, in order to save time and the operational cost, it would have been obvious to the skilled artisan in the art to minimize the extra step unnecessary to the process. Therefore, it would have been obvious to the skilled artisan in the art to have motivated to convert the Meixner's et al two step process into the claimed single step process so as to save time and the operational cost.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 571-272-0689. The examiner can normally be reached from 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mckane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Taylor Victor Oh
3/3/04



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